REMARKS

Applicants acknowledge the Examiner's time and courtesy during the March 27, 2002, teleconference with Applicants' representative James E. Ruland to discuss the claim rejections under 35 USC §112, first paragraph. Applicants have amended the claims pursuant to that conversation to remove these rejections. Specifically, the claims are amended to clarify that the reacted copolymers are made from the recited units. Particularly, it would be clear, for example, that a copolymer is made from ethylene and an unsaturated carboxylic acid, and a resulting copolymer does not comprise these units, but derivatives thereof. Thus, these amendments are made for clarification and do not narrow the scope of the claims.

Also during the teleconference, the Examiner raised concerns regarding support for α,ω-aminocarboxylic acid. However, Applicants respectfully submit that these terms are supported at page 5, lines 22-24 and the Example at 7, line 28.

In view of the above, favorable reconsideration is courteously requested. Conversely, if there are any residual issues which can be expeditiously resolved by a telephone conference, the Examiner is courteously invited to telephone Counsel at the number indicated below.

Claim Rejections Under 35 U.S.C. §103

Claims 20, 23, 32 and 38 are allegedly unpatentable over U.S. Pat. No. 5,395,881 (Spelthann). The Office alleges that the twin-screw extruder disclosed in Spelthann is equivalent to the mixing means shown in the examples of the application. Thus, the Action concludes that Spelthann containing copolymers within the realm of claimed components (A), (B) and (C) inherently forms a crosslinked phase as set forth in Applicants' claim 1. Applicants respectfully traverse these rejections.

Spelthann discloses a polyolefin composition (column 1, lines 7-9). The polymer composition is a blend of a first thermoplastic polymer component and a second polar thermoplastic polymer component (column 1, lines 25-37).

The first thermoplastic polymer component includes a) a non-polar thermoplastic polyolefin; and (b) a compatibilizing polymer which is an olefin polymer containing a copolymerized polar monomer, and a carboxylic acid or a derivative thereof. The derivative may be an anhydride (column 3, lines 36-40).

The second polar thermoplastic polymer component includes a) a polar ethylene

copolymer and (b) a polar ethylene compatibilizing copolymer. The polar ethylene copolymer consists essentially of (i) ethylene, (ii) at least one copolymerizable, ethylenically unsaturated organic compound, and (iii) carbon monoxide. Column 1, lines 36-44. The copolymerizable, ethylenically unsaturated organic compound is a termonomer containing unsaturated mono- and dicarboxylic acids of 3-20 carbon atoms, esters of such unsaturated mono- or dicarboxylic acids, vinyl esters of saturated carboxylic acids wherein the acid group has 1-18 carbon atoms, vinyl alkyl ethers wherein the alkyl group has 1-18 carbon atoms, acrylonitrile, methacrylonitrile, copolymerizable unsaturated hydrocarbons such as alpha-olefins of 3-12 carbon atoms, ring compounds such as norbornene and vinyl aromatic compounds. Column 4, lines 27-37. More preferred copolymers include those in which vinyl acetate, an alkyl (1-8 carbons) acrylate or alkyl methacrylate (particularly n butyl acrylate) is the termonomer. Column 4, lines 44-47. Exemplary termonomers are n-butylacylate *sic*. Column 5, lines 60-65.

The polar ethylene compatibilizing copolymer consists essentially of (i) ethylene, (ii) optionally at least one copolymerizable, ethylenically unsaturated organic compound, and glycidyl acrylate or methacrylate. Column 1, lines 45-52. The optional copolymerizable, ethylenically unsaturated organic compound of the compatibilizing copolymer is methyl acrylate, or most preferably n-butyl acrylate. Column 4, line 66 - column 5, line 8.

However, to establish *prima facie* obviousness of a claimed invention, all claim features must be taught or suggested by the prior art. See *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974), M.P.E.P. §2143.03.

Spelthann discloses a polymer composition <u>blend</u> of two polymer components. The first polymer component includes (1) a compatibilizing polymer which is an olefin polymer containing a carboxylic acid or a derivative (anhydride). The second polymer component includes (1) a polar ethylene copolymer consisting essentially of ethylene, at least one copolymerizable, ethylenically unsaturated organic compound, and carbon monoxide; and (2) a polar ethylene compatibilizing copolymer consisting essentially of ethylene, optionally at least one copolymerizable, ethylenically unsaturated organic compound (an acrylate), and glycidyl acrylate or methacrylate.

The Examiner has not provided a sound scientific reason to support the rejection based on inherency. Thus, Spelthann utterly fails to teach or suggest a thermoplastic polymer having incorporated therein a crosslinked phase, much less for example, a crosslinked phase from a

reaction of:

(A) a copolymer made from an unsaturated epoxide or a polyolefin grafted with an unsaturated epoxide and having 2 epoxide functional groups,

(B) a copolymer made from ethylene and an unsaturated carboxylic acid anhydride, and

(C) a copolymer made from an unsaturated carboxylic acid or an α,ω-aminocarboxylic acid.

Regarding the assertion that Spelthann discloses an equivalent mixing means to form a crosslinked phase from polymers encompassed by the present invention, Applicants respectfully submit that the burden is on the Patent Office to establish a prima facie case of unpatentability.

Applicants respectfully traverse any suggestion that the alleged encompassed polymers inherently form a crosslinked phase and the mixer of Spelthann is allegedly equivalent to the mixer of the present invention, and respectfully request that the Examiner support his position by providing at least one reference so the Applicants may consider the reference and offer distinguishing comments. See M.P.E.P. §2144.03.

Attached hereto is a marked-up version of the changes made to the specification and claims by the current amendment. The attached page is captioned **"VERSION WITH MARKINGS TO SHOW CHANGES MADE"**.

In view of the above remarks, favorable reconsideration is courteously requested.

Respectfully submitted,

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VERSION WITH MARKINGS SHOWING CHANGES MADE

IN THE SPECIFICATION

Please amend the specification as follows:

Please replace the paragraph beginning on page 1, line 36, with the following amended paragraph:

--It has now been discovered that if a product (C) comprising at least one unsaturated carboxylic acid [or ∝, ω-aminocarboxylic acid] is added to a mixture of a product (A) comprising an unsaturated epoxide [or 2 epoxide functional groups] and of a product (B) comprising an unsaturated carboxylic acid anhydride, the entire mixture being incorporated in a thermoplastic polymer, a thermoplastic copolymer comprising a crosslinked phase is very easily obtained.--

IN THE CLAIMS

Please cancel claim 35 without prejudice or disclaimer to the subject matter therein.

Please amend the following claims:

20. (Amended) A thermoplastic composition comprising a thermoplastic polymer, having incorporated therein a crosslinked phase from a reaction of:

(A) a copolymer made from an unsaturated epoxide or a polyolefin grafted with an [compound different from said] unsaturated epoxide and having 2 epoxide functional groups,

(B) a copolymer made from [of] ethylene and an unsaturated carboxylic acid anhydride, and

(C) a copolymer made from an unsaturated carboxylic acid or an α,ω-aminocarboxylic acid.

21. (Amended) A thermoplastic composition comprising a thermoplastic polymer, having incorporated therein a crosslinked phase from a reaction of:

(A) [an] a copolymer made from ethylene/alkyl (meth)acrylate/glycidyl (meth)acrylate [copolymer],

(B) [an] a copolymer made from unsaturated carboxylic acid anhydride, and

(C) [an] a copolymer made from unsaturated carboxylic acid or an α,ω-aminocarboxylic acid.

22. (Amended) A composition according to claim 20, wherein (A) is [an] a copolymer made from ethylene/alkyl (meth)acrylate/glycidyl (meth)acrylate [copolymer].

23. (Amended) A composition according to claim 20, wherein (A) is either a copolymer [of] made from ethylene and an unsaturated epoxide, a polyolefin grafted with an unsaturated epoxide [or a product] and having two epoxide groups, said product being other than said copolymer and polyolefin, and (C) is a partially or completely hydrolyzed copolymer [of] made from ethylene and an unsaturated carboxylic acid anyhdride, a partially or completely hydrolyzed copolymer of a polyolefin grafted with an unsaturated carboxylic acid anhydride, or an α,ω-aminocarboxylic acid.

24. (Amended) A composition according to claim 21, wherein (B) is either a copolymer [of] made from ethylene and an unsaturated carboxylic acid anhydride, or a polyolefin grafted with an unsaturated carboxylic acid anhydride, and (C) is a partially or completely hydrolyzed copolymer [of] made from ethylene and an unsaturated carboxylic acid, a partially or completely hydrolyzed copolymer of a polyolefin grafted with an unsaturated carboxylic acid anhydride, or an alpha, α,ω-aminocarboxylic acid.

25. (Amended) A composition according to claim 20, wherein (C) is [an] a copolymer made from ethylene/alkyl (meth)acrylate/(meth)acrylic acid [copolymer].

26. (Amended) A composition according to claim 21, wherein (C) is [an] a copolymer made from ethylene/alkyl (meth)acrylate/(meth)acrylic acid [copolymer].

27. (Amended) A composition according to claim 22, wherein (C) is [an] a copolymer made from ethylene/alkyl (meth)acrylate/(meth)acrylic acid [copolymer].

28. (Amended) A composition according to claim 23, wherein (C) is [an] a copolymer made from ethylene/alkyl (meth)acrylate/(meth)acrylic acid [copolymer].

29. (Amended) A composition according to claim 24, wherein (C) is [an] a copolymer made from ethylene/alkyl (meth)acrylate/(meth)acrylic acid [copolymer].

32. (Amended) A composition according to claim 23, wherein (A) is said copolymer [of] made from ethylene and an unsaturated epoxide.

36. (Amended) A composition according to claim [35] 23, wherein (C) is said copolymer made from ethylene and unsaturated carboxylic acid.

37. (Amended) A composition according to claim [35] 36, wherein (A) is a copolymer [of] made from ethylene and glycidyl methacrylate.

38. (Amended) A composition according to claim 20, wherein (B) is a copolymer [of] made from ethylene and maleic anhydride.

39. (Amended) A composition according to claim 37, wherein (B) is a copolymer [of] made from ethylene and maleic anhydride.

40. (Amended) A composition according to claim 39, wherein (C) is [an] a copolymer made from ethylene/alkyl (meth)acrylate/(meth)acrylic acid [copolymer].

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